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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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06/14/2001

Yong Rui

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27662

7590

05/06/2004

LYON & HARR, LLP
300 ESPLANADE DRIVE, SUITE 800
OXNARD, CA 93036

EXAMINER

ENG, GEORGE

ART UNIT

PAPER NUMBER

2643

DATE MAILED: 05/06/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/681,843

Applicant(s)

RUI ET AL.

Examiner

George Eng

Art Unit

2643

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 and 15-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office is in response to the amendment filed 2/10/2004 (paper no. 14).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-9, 15-20 and 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ippolito et al. (US PAT. 6,072,522 hereinafter Ippolito) in view of Baker (US PAT. 5,686,957) and McCall et al. (US PAT. 6,002,430 hereinafter McCall).

Art Unit: 2643

Regarding claim 1, Ippolito discloses an automated system (100, figure 2) for capturing and viewing an event having event participants comprising a camera system (130, figure 2) for providing image of the event and that simultaneously and automatically tracks the event participants to determine the event participants that are speaking using audio analysis and film the event (col. 8 lines 1-23 and col. 8 line 51 through col. 10 line 59), and an automated online broadcasting system (16, figure 2) for controlling and using the camera system to monitor each of the tracked event participants simultaneously and broadcasting the events (col. 6 line 66 through col. 7 line 6). In addition, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a communication network (col. 6 line 66 through col. 7 line 24). Thus, one skill in the art would recognize the automated system further comprising a viewer platform in communication with the automated online broadcasting system that allows the remote participants to view the broadcasted event. Ippolito differs from the claimed invention in not specifically teaching to use audio analysis including a microphone-array sound source localization technique to alleviate camera view switching delays. However, Baker teaches an automatic voice-directional video camera steering system including an audio detection circuit from an array of microphone that can instantaneously determine the directional of a particular speaker and provide directional signals to a video camera and lens system in order to alleviate camera view switching delays (abstract and col. 5 line 16 through col. 7 line 38). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ippolito in utilizing audio analysis including the microphone-array sound source localization technique to alleviate camera view switching delays as taught by Baker. Furthermore, the combination of Ippolito and Baker differs from the claimed

Art Unit: 2643

invention in not specifically teaching the camera system comprising a seamless omni-directional camera system that provides a seamless omni-directional image. However, McCall teaches a camera system for forming a seamless spherical image, i.e., a seamless omni-directional image, from captured image or images by cameras in order to provide a maximum amount of viewing coverage without the bulk of additional cameras (col. 3 line 32 through col. 6 line 42 and col. 7 line 38 through col. 9 line 39). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito and Baker in using the seamless omni-directional camera system, as per teaching of McCall, because it improves the automated event presentation system by providing the maximum amount of viewing coverage without the bulk of additional cameras.

Regarding claims 2-4, McCall teaches the camera including a wide-angle imaging device, wherein the wide-angle imaging device providing an approximately 180-degree field-of-view so that the camera system including to combine a plurality of cameras to provide an approximately 360-degree field-of-view (figure 6A, col. 7 lines 38-44 and col. 8 lines 32-42). In addition, McCall also teaches to use a camera having a wide-angle view approximately 360 degrees in order to eliminate the bulk of an additional camera (figure 6B and col. 10 lines 41-46).

Regarding claim 5, Ippolito discloses a switching module for allowing switching between of the image of the event (col. 13 lines 53-67).

Regarding claim 6, McCall teaches the omni-directional camera system for providing a high-resolution image (col. 8 lines 54-63) so that it recognizes the omni-directional camera system having a resolution of approximately 1000 by 1000 pixels.

Regarding claim 7, Ippolito teaches the camera control system further comprising means for finding and indexing the event participants (col. 10 lines 14-46).

Regarding claim 8, Ippolito discloses a method for filming and recording an event having event participants and presenting the event to a viewer, comprising the steps of using a camera system (130, figure 2) for filming and recording the event to provide an image that contains the event participants (col. 7 lines 38-62), and automatically determining a location of the event participant in the image by using a speaker detection technique to determine the event participants that are speaking (col. 8 lines 1-23 and col. 8 line 51 through col. 10 line 59). In addition, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a communication network (col. 6 line 66 through col. 7 line 24). Thus, one skill in the art would recognize the automated system further comprising a viewer platform in communication with the automated online broadcasting system that allows the remote participants to view the broadcasted event. Ippolito differs from the claimed invention in not specifically teaching to switch instantaneously between views of event participants in response to the choice. However, Baker teaches an automatic voice-directional video camera steering system including an audio detection circuit from an array of microphone that can instantaneously determine the directional of a particular speaker and provide directional signals to a video camera and lens system in order to alleviate camera view switching delays such that the image can be switched instantaneously between views of the event participant in response to directional signals (abstract and col. 5 line 16 through col. 7 line 38). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ippolito in switching instantaneously between views of event participants in

Art Unit: 2643

response to the choice, as taught by Baker, in order to alleviate camera view switching delays. Furthermore, the combination of Ippolito and Baker differs from the claimed invention in not specifically teaching the camera system comprising a seamless omni-directional camera system that provides a seamless omni-directional image. However, McCall teaches a camera system for forming a seamless spherical image, i.e., a seamless omni-directional image, from captured image or images by cameras in order to provide a maximum amount of viewing coverage without the bulk of additional cameras (col. 3 line 32 through col. 6 line 42 and col. 7 line 38 through col. 9 line 39). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito and Baker in using the seamless omni-directional camera system, as per teaching of McCall, because it improves the automated event presentation system by providing the maximum amount of viewing coverage without the bulk of additional cameras.

Regarding claim 9, Ippolito teaches video conferencing management device for managing the exchange of the various audio and video information over a communication network (col. 5 lines 39-45) so that it recognizes the video conferencing management device functions as a computer having computer-executable instructions for performing an operation.

Regarding claims 15-16, Baker teaches the speaker detection technique including microphone array sound source localization technique that use a microphone array (120, figure 2) and sound source localization algorithms (col. 9 line 42 through col. 10 line 46), and using the speaker detection technique to follow event participants that are speaking by switching from on camera view to another camera view (abstract and col. 5 line 16 through col. 7 line 38), and Ippolite teaches to provide means for the identification of a principle speaker and for positioning

Art Unit: 2643

of the video camera so as to capture the image (abstract) such that Ippolite teaches the speaker detection technique is audio and video processing technique.

Regarding claim 17, McCall discloses the omni-directional camera system being one of a single panoramic camera and an array camera having an approximately 360-degree field-of-view (figures 6A-6B).

Regarding claim 18, Ippolito discloses a method for filming and recording an event having event participants and presenting the event to a viewer, comprising the steps of using a camera system (130, figure 2) for filming and recording the event to provide an image that contains the event participants (col. 7 lines 38-62), transmitting images from a broadcasting platform (16, figure 2) to a viewer platform using a electronic communication network, i.e., a computer network (col. 6 line 66 through col. 7 line 24). In addition, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a communication network (col. 6 line 66 through col. 7 line 24) and it is old and notoriously well known in the art of using a manual user interface in a remote location for choosing of which of the event participants to view. Thus, one skill in the art would recognize Ippolito in using the view platform to allow a remote viewer to select which of the image the remote view would like to view in order to make user friendly. Ippolito differs from the claimed invention in not specifically teaching to switch instantaneously between views of event participants by presenting a desired portion of the image as selected by the viewer. However, Baker teaches an automatic voice-directional video camera steering system including an audio detection circuit from an array of microphone that can instantaneously determine the directional of a particular speaker and provide directional signals to a video camera and lens system in order

Art Unit: 2643

to alleviate camera view switching delays such that the image can be switched instantaneously between views of the event participant in response to directional signals (abstract and col. 5 line 16 through col. 7 line 38). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ippolito in switching instantaneously between views of event participants by presenting a desired portion of the image as selected by the viewer, as taught by Baker, in order to alleviate camera view switching delays. Furthermore, the combination of Ippolito and Baker differs from the claimed invention in not specifically teaching the camera system comprising a seamless omni-directional camera system that provides a seamless omni-directional image. However, McCall teaches a camera system for forming a seamless spherical image, i.e., a seamless omni-directional image, from captured image or images by cameras in order to provide a maximum amount of viewing coverage without the bulk of additional cameras (col. 3 line 32 through col. 6 line 42 and col. 7 line 38 through col. 9 line 39). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito and Baker in using the seamless omni-directional camera system, as per teaching of McCall, because it improves the automated event presentation system by providing the maximum amount of viewing coverage without the bulk of additional cameras.

Regarding claim 19, McCall teaches the viewer selecting to view to view multiple portions of the omni-directional image (col. 11 lines 8-25).

Regarding claim 20, Ippolito teaches to contain all event participants within the event environment (col. 3 lines 41-45).

Regarding claim 25, Ippolito teaches to require no physical movement to capture the event participants (col. 3 line 57 through col. 4 line 5), as well as McCall (col. 3 lines 55-58).

Regarding claims 26-27, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a communication network (col. 6 line 66 through col. 7 line 24) and it is old and notoriously well known in the art of using a manual user interface in a remote location for choosing of which of the event participants to view. Thus, one skill in the art would recognize Ippolito in having a user interface on the viewer platform allowing an arbitrary number of viewers to view an arbitrary number of viewpoints of the broadcasted event so that instantaneous switching is supported for an infinite number of viewers that select arbitrary different viewpoints.

Regarding claim 28, Ippolito differs from the claimed invention in not specifically teaching to transmit a low-resolution version of the omni-directional image to the viewer platform, wherein the omni-directional image produced by the omni-directional camera system is a high-resolution omni-directional image and to transmit a high-resolution version of the selected portion of the omni-direction image to the viewer platform. However, McCall teaches such (col. 13 lines 26-53 and col. 16 line 30 through col. 17 line 13). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ippolito in transmitting the low-resolution version of the omni-directional image to the viewer platform and transmitting the high-resolution version of the selected portion of the omni-direction image to the viewer platform, as per teaching of McCall, in order to provide capabilities associated with traditional mechanical pan, tilt, rotation and zoom devices.

Art Unit: 2643

Regarding claim 29, the limitations of the claim are rejected as the same reasons set forth in claim 8.

Regarding claim 30, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a communication network (col. 6 line 66 through col. 7 line 24) and it is old and notoriously well known in the art of using a manual user interface in a remote location for choosing of which of the event participants to view, thereby it allows a plurality of viewers to simultaneously view different views.

4. Claims 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ippolito et al. (US PAT. 6,072,522 hereinafter Ippolito) in view of McCall et al. (US PAT. 6,002,430 hereinafter McCall) and Parker et al. (US PAT. 5,963,250 hereinafter Parker).

Regarding claim 21, Ippolito discloses a method for filming and recording an event having event participants and presenting the event to a viewer, comprising the steps of using a camera system (130, figure 2) for providing an image of the event (col. 7 lines 38-62), and an automated online broadcasting system (16, figure 2) for controlling and using the camera system to monitor each of the tracked event participants simultaneously and broadcasting the events (col. 6 line 66 through col. 7 line 6). In addition, Ippolito teaches to exchange audio and video information from the automated system to remote participants in a videoconference via a computer network (col. 6 line 66 through col. 7 line 24). Thus, one skill in the art would recognize a view platform in communicate the computer network for receiving the image. Ippolito differs from the claimed invention in not specifically teaching the camera system comprising a seamless omni-directional camera system that provides a seamless omni-directional

Art Unit: 2643

image. However, McCall teaches a camera system for forming a seamless spherical image, i.e., a seamless omni-directional image, from captured image or images by cameras in order to provide a maximum amount of viewing coverage without the bulk of additional cameras (col. 3 line 32 through col. 6 line 42 and col. 7 line 38 through col. 9 line 39). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Ippolito in using the seamless omni-directional camera system, as per teaching of McCall, because it improves the automated event presentation system by providing the maximum amount of viewing coverage without the bulk of additional cameras. Furthermore, neither Ippolito nor Macall specifically discloses a virtual director module for determining which of the multiple camera views to display on the viewer platform by applying a set of expert production rules based at least in part on a display history of an event participant. However, Parker discloses a system for controlling the field of view of a camera to automatically remove or add subjects from a previously share view comprising means for determining which camera view to display on by applying a set of rules based at least part on a display history of an event participant (col. 9 line 16 through col. 10 line 29 and col. 15 line 24 through col. 16 line 47) in order to provide an additional level of field of view automation. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito and McCall in having the virtual director module for determining which of the multiple camera views to display on the viewer platform by applying a set of expert production rules based at least in part on a display history of an event participant, as per teaching of Parker, in order to provide an additional level of field of view automation.

Art Unit: 2643

Regarding claim 22, Ippolito teaches to provide switching between the multiple camera views of the event (col. 13 lines 53-67).

Regarding claim 23, Ippolito teaches to switch instantaneously between multiple camera views (col. 7 line 63 through col. 8 line 23 and col. 13 lines 53-67).

5. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ippolito et al. (US PAT. 6,072,522 hereinafter Ippolito) in view of Baker (US PAT. 5,686,957) and McCall et al. (US PAT. 6,002,430 hereinafter McCall) as applied in claim 8 above, and further in view of Kannes (US PAT. 5,382,972).

Regarding claims 10-13, the combination of Ippolito, Baker and McCall differs from the claimed invention in not specifically teaching to store annotation associated with the event and synchronizing this annotations with the event for allowing the view to select which of the annotation to store while the event is occurring or after the event occurring, wherein the annotations is a digital chat regarding the event. However, Kannes teaches such (col. 11 line 10 through col. 13 line 36). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito, Baker and McCall in storing annotation associated with the event and synchronizing this annotations with the event for allowing the view to select which of the annotation to store while the event is occurring or after the event occurring, wherein the annotations is a digital chat regarding the event, as per teaching of Kannes, in order to make user friendly.

Art Unit: 2643

6. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ippolito et al. (US PAT. 6,072,522 hereinafter Ippolito) in view of McCall et al. (US PAT. 6,002,430 hereinafter McCall) and Parker et al. (US PAT. 5,963,250 hereinafter Parker) as applied in claim 21 above, and further in view of Bruno et al. (US PAT. 5,710,591) hereinafter Bruno).

Regarding claim 24, the combination of Ippolito, McCall and Parker differs from the claimed invention in not specifically teaching to provide negative switching that allows switching to a camera view of a person speaking before begins to speak, i.e., negative switching. However, Bruno teaches such (col. 4 line 62 through col. 5 line 7). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combination of Ippolito and McCall in switching to a camera view of a person speaking before begins to speak, as per teaching of Bruno, because it makes user friendly for subsequent retrieval and processing.

Response to Arguments

7. Applicant's arguments with respect to claims 1-13, 15-20 and 25-30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

Art Unit: 2643

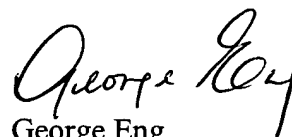
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Eng whose telephone number is (703) 308-9555. The examiner can normally be reached on Tuesday to Friday from 7 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



George Eng
Primary Examiner
Art Unit 2643